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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/843,234 | 04/24/2001 | M. Kivanc Mihcak | MS1-793US | 7348 |
| 22801 | 7590 | 09/09/2004 | EXAMINER | |
| LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201 | | | LAROSE, COLIN M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2623 | |

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,234

Applicant(s)

MIHCAK ET AL.

Examiner

Colin M. LaRose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,32-34 and 38 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6,32-34 and 38 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0701.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-6, 32-34, and 38) in the reply filed on 25 June 2004 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 32-34, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,875,264 by Carlstrom.

Regarding claims 1 and 38, Carlstrom discloses a computer-implemented method facilitating similarity recognition of a digital signal, the method comprising:

obtaining a digital signal (camera 202 in figure 18 obtains a digital image signal); and

deriving a recognition value (figure 18: output mapping circuitry 206 derives recognition values for each of a plurality of patterns contained in the digital signal) representative of the digital signal such that perceptually distinct digital signals result in recognition values that are approximately independent of one another and perceptually similar digital signals result in proximately similar recognition values (in figure 18: different sub-arrays of the digital image signal are input to a hashing mechanism 206, which maps the

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patterns contained in each of the sub-arrays to an associated memory 208-212, thereby deriving a "hashed," or recognition, value for each sub-array;

each memory contains a set of possible pattern recognition values (or "solutions") for the associated image portion - see figures 1-3;

then the combining circuitry 216 combines the sets of recognition values to yield a final recognition value (e.g. a character) that is representative of the overall pattern;

the system is trained so that different patterns or characters can be distinguished based on their recognition (i.e. hash) values - in other words, the recognition values of perceptually similar patterns are similar, and the recognition values of perceptually distinct patterns are dissimilar).

Regarding claim 2, Carlstrom discloses, a method as recited in claim 1 further comprising comparing the recognition value with another recognition value derived from another digital signal (figure 4: the recognition value of a first sub-array W is compared to the derived recognition values of the other sub-arrays X, Y, and Z).

Regarding claim 3, Carlstrom discloses a method as recited in claim 1, wherein the recognition value is a hash value (mapping circuitry 206, figure 18, derives a hash value as the recognition value for each sub-array).

Regarding claim 4, Carlstrom discloses, a method as recited in claim 1, wherein the digital signals are digital image signals (camera 202 is a digital camera).

Regarding claim 5, Carlstrom discloses a computer-readable medium having computer-executable instructions that, when executed by a computer, performs the

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method as recited in claim 1 (i.e. Carlstrom's method is disclosed as being computer-implemented and comprises computer instructions on a medium).

Regarding claim 6, Carlstrom discloses a computer comprising one or more computer-readable media having computer-executable instructions that, when executed by the computer, perform the method as recited in claim 1 (i.e. Carlstrom's method is disclosed as being computer-implemented and comprises computer instructions on a medium).

Regarding claim 32, Carlstrom discloses a computer-implemented method facilitating similarity recognition of a digital signal, the method comprising:

obtaining a digital signal (camera 202 in figure 18 obtains a digital image signal);

non-linear filtering of the signal to eliminate isolated significant components of the signal (figures 24 and 25 and column 20, lines 52-61: a non-linear median filter is used to remove "isolated pixel noise");

deriving a recognition value from the filtered signal, the recognition value being representative of the digital signal such that perceptually distinct digital signals result in recognition values that are approximately independent of one another and perceptually similar digital signals result in proximally similar recognition values (i.e. the mean-filtered signal is applied to the system of figure 18 and produces the claimed recognition value - see the explanation for claim 1).

Regarding claim 33, Carlstrom discloses a method as recited in claim 32, wherein isolated significant components of the signal are those that are geometrically weak

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(figure 20, lines 52-61: the pixels that are removed are geometrically weak - that is, they are not strongly connected to their neighbors).

Regarding claim 34, Carlstrom discloses a computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 32 (i.e. Carlstrom's method is disclosed as being computer-implemented and comprises computer instructions on a medium).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patents 5,953,451 and 6,321,232 by Syeda-Mahmood

U.S. Patent 5,664,016 by Preneel et al.

U.S. Patent 5,351,310 by Califano et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.

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CML

Group Art Unit 2623

3 September 2004

A handwritten signature in black ink, appearing to read 'Bali', with a large, stylized initial 'B'.

**VIKKRAM BALI
PRIMARY EXAMINER**